Vol. 6th

London 24 April 1791

A machine for loading land carriages &c

Ditto for preventing a ship by the motion of the ship

Ditto for a ship

Scale for the measure of Reflecting Telescopes

Comments [illegible] was proposed as [illegible] and [illegible] the [illegible] [illegible] a discussion [illegible]

Patent Stove for warming a room with air purer than the Atmosphere. A retort is placed in the stove one end opens into the room on the side or back of the grate, the other end opens above and draws the air heated in the retort into the room, tube or any substance containing pure air put into the retort the retort in itself is said to purify the air — Doctor Pr. proved that pieces of burnt retorts rendered the air pure

Mr. Maxwell with
Bell Nelson
Garwood

X

§91. Rock salt not permitted
to be imported into Scotland
but into England
Salt mines — Salt pits
Pans for or Solution of
Brine — salt would be imported
under bond — there would
be any rebate except
the duty and value
— method of evaporation —

§92. That the sea has co-
vered the land on both
sides the River Thames
as far up as London
is proved by the round
smooth pebbles found every
where below the surface
of the earth — The same
at Moffat —

(Doctor Nicholl's blow pipe) pipe consists of two jaws of small bellows between which are two ivory tubes for blowing in the air, so that can be kept the pipe & bladder filled with fume or any other air the pipe is on one side of the bellows and has both a horizontal and vertical motion — Lond. 25. 16 —

~~Oct.~~ A ship moves with resistance not only from the water but from the wind on the fore part of the hull above water and ~~also~~ still more by the wind on the fore sides of the sails, the first is inconsiderable the last great, the last resistance may

Sailing Class
No 2
Pr. 31 — 0 —
Marsan

Mr. Ryder Lieu. Dr
Lieutenant.
Mr. Maxwell
Carpenter and Mate Jno.

may be effected by his
a greater number of small
sails, a sloop might have
them all on one long boom
Exp.t — By dividing the vanes
of a large smoke jack or Ventilator the Velo.y
is increased — Exp.t two cards
one cut into slips and strung
on two threads near the ends
of the cards, placed so on the
threads that when hung up
they may be one exactly over
the other at a distance ~~equal~~
equal to their breadth, each in
a horizontal position a small
weight such as a bird shot
hung under them to make them
fall in a horizontal position
suspend the whole card with
an equal weight to the other

Market

Beef 20 s the Cwt = 120 lb
Cows from 13 to 17 lb

when a leaf sails before the wind the resistance from the air is nothing

end of the string by three or six feet under deep then from a considerable height at the same instant of time, the whole cord is forgot in drawing

~~Ist~~ In heaving ~~to~~ the anchor if it blows the cables frequently by snapping at the outside of the hawse hole, this is owing to the sudden bending of the cable at the hawse hole when the anchor is a peak at which time the accident almost always happens — This may be remedied by a fruling in the hawse hole — two feet Diam.

Vessels have often been
found at sea, and have some-
times driven into port with
no soul living on board
When any of the men are asked
by taking to their boats the
reason they give is that the Vessel
springing a leak, that he was
induced to urge so fast that
they quitted her least they should
go down with her — The reason
of the people too hastily deserting
most is that when the leake
is near the bottom the water
springs with great noise and
force and consequently rise
faster than when she is near
full. The bottom of the Vessel
is also narrower where the
water rises faster at first —
Empty casks light parts of
the

the cargo, tho' they add to the
stiffness when above the w.l.
equally diminish it when below
— There are also certain heavy
cargoes that when the water gets
at them dissolve and thereby
lighten the Vessel such as
salt and sugar —

~~147.~~ The Channel divides the
hold of a large ship into
a number of separate chambers
with partitions well
caulked so that a leak
in one does not affect the
rest; and tho' any division
should be filled yet it is
not sufficient to sink the
ship

There are six causes
of a ships overselling 1 from
being by a leak 2. Overselling
by sudden squalls of wind or
carrying too much sail
3 Fire by accident or care-
lessness 4. Lightning 5
running foul of other ships
& making in the Night with
Islands of ice
— Deivalers more liable to
overselling in their first cruis
because — overmasted — when
heaving man ~~ship~~ body down to the
the side — A great keel not
the most advantageous form
for sailing — A be fast how
sometimes under jury mast
made

more way than when she had
all her sails ~~on~~ set —
— Ships now built narrow
about their combustibles to the
danger of overwhelming — ~~it is~~
This ~~fault~~ form of some use in
preventing ~~burning~~ —
— Double bottoms by the nations
of south America — Pacific an
disadvantage of ships ballast — more
steady guns have a better
effect
— Accidental fire — lose by fire
burnt by drawing of spirits
from a cask near a candle —
— Spirits should be carried to sea
in bottles
— Lightning — Chains made by

Nairn and Blunt kept
in a box, can be put up in
five minutes

— Shifts meeting in the night
prevented by wearing a Cork
or ringing bell —

— I have seen an Island of ice
70 feet above the surface of the
water, and consequently I know
no reason under water —

~~509~~ The Chinese small Shell
boats

~~510~~ A boat moved across the
seine by a Long Hull Fly
four Arms at 5 feet long
and two feet wide —
It may probably be used
to no the advantage under
water —

At
Lowell
near
Paris

~~§ 11.~~ Circular oars produce a less effect than one would at first think — Reason — when the whole is plunged deep in the water the lower paddle produces the principal effect thus near the surface ~~serve~~ on the one side to press up on the other to press down the boat but give her little forward motion —

~~§ 12.~~ Bernoulli proposes giving motion to a ship by water flowing through a tube bent in the form of an L the lower part coming out at the stern below the water — Two tubes one at the head, the other

at the stern — That at the head
made to force out the water
— A stream of air forced through
by pumps with the valves open?
Downwards would perhaps be
more powerful than the water

112. Quarring the bottom of a
vessel makes her sail better
— The repulsion between water
and quare the cause —

113. What is the difference
between fossil and sea
salt, has fire been con-
cerned in the production of
the latter — Salt laws
abroad Rock salt can only
be ~~exported~~ carried to three or four
places — No person allowed
to make salt for his use

of his family — near the
salt pits there might be de-
by fear, sometimes at a
small expence —

~~4th.~~ The Meridian of Derby
has a range of mountains
running along the West
down the east side slopes
gradually, the west abruptly
On the East the sea is shal-
low on the West Deep

~~5th.~~ Instead of France and
England being joined for
ever — It is probable
the will at some future
period be joined —

£17 For the process of making Salt see Wat. tons Essays 2d Vol. or Lord Dundonald's pam.

Mr. Mag. Mean of Vol. are found in the forest parts of Germany the Vol. the now colonist have remaining are in the Neighbourhood of volc. Ours have not the same lava also in the same situation —

~~§ 14~~ Rays of light make
an addition to solid bodies
— Morgans Lect. Pert vett:
Philosophical transact.

~~§ 20~~ If water ~~is~~ decomposed
and Land increases how
does this happen? — do
bodies by distillation or
any other process give
out as much water
as they have imbibed
to have imbibed

§ 21 What shall have
the power in the formation
of solids? and how
for Dalton's constituents

to ~~their~~ manner their back.

~~122.~~ An account of an artificial spring of water by Doctor Darwin —

~~123.~~ The Ganges probably contributes most to the growth of vegetables —

~~124.~~ At the bottom of large rivers the land is gaining on the sea — Ganges Nile Mississippi — Thames &c —

~~125.~~ The Eastern coasts of England and Ireland are flatter and the sea shallower than the western — same thing happens with respect to the tides —

~~126.~~ Shells found among the hills on the shore are generally

not so round as the other stones
owing to their hardness —

~~It~~ The Gulph stream is
warmer than the neighbouring
water — Lichales never found
in but generally near the
stream — The coasting of this
stream near Strand Land
occasions the fogs which
are so frequent on that sea
this stream often sets beyond
far out of their course —

~~Qu~~ May not the effect of
burning Glasses be greatly
augmented by throwing on
the substances to be burnt
a phlogisticated
of fire by ~~[illegible]~~ air? —

~~129~~ If vegetable alkali is dissolved in Oxygenated muriatic acid and evaporated a salt is produced which deliquesces with charcoal, and melts in greater quantities in cold than in hot water —

~~130~~ Rotative motion produced by two wheels on the same arbor both move on the arbor bottom a strong catchette has fixed on the arbor two slops in the inside of each wheel a double ratch the teeth not directly opposite to each other in one in each wheel at the same time

Qeri — how is the muriatic acid dephlogisticated?

Ans — By distilling it with magnesia

~~131.~~ Ladies Clubmoss

~~132.~~ Paper balls for dancing

~~133.~~ Tabor Dianna Solution

[illegible] in the Thousand

[illegible] small quantity laid on

[illegible] and a piece of

[illegible] was laid in of metal

a beautiful [illegible]

[illegible] made over the whole

[illegible] of the Fire-place

134 It is said that water

[illegible] in the Borough

by a Vacuum made with

[illegible] heat alone. —

~~135.~~ The boiler of the old

Engine is usually made

from time to time limit the
diameter of the Cylinder, built
in some of Mr. Watt's not more
than 2½.

~~35.~~ Bolton and Watt's Engine
has a Steam Gauge for mea-
suring the strength of the steam
in the Cylinder and a Bar
for ascertaining the degree of
Vacuum in the condenser.

~~36.~~ Mr. Watt's Steam made in
a Glass Globe about 4 inches
Diam. just a few drops of the
solution of Silver in the Nit. ac.
the neck of the Globe the size
of a small Quill [illegible] a
[illegible] was
[illegible] in the inside of the Globe
in the inside of the Globe
the Steam will escape to
the Atmosphere

the top. Sprinkle a cloth of
cotton with bitumen and set
it on fire in the middle of the
Globe which will be all black
and shew the Art. Or
for a Treatise of Astronomy
for Ladies, to shew the method
of taking out every kind of
Letters in Dispatch, would
make an important branch
Thursday 19th May
This day Saturday 19th May
visited Dr Moore had to be
now nearly completed his great
telescope. The Mirror is 40 ft
focal distance and 4 feet Diam
weighs 1035 Lib. The tube is
of wrought iron. The apparatus
ingeniously contrived for moving
it has cost nine years
Volume in the Moon, near
the opposite in the dark limb

the Moon was 2 : 16 : 47 : 0 Clock Mean
appearance of the most Volcanos in
the Moon Craters fallen in. little
mounts in the Center of the Crater
one double —

Doctor Herschell has the
Telescopes mounted in his
Garden one of 10 one of 20
and one of 40 feet focal dist
The clocks are so contrived
with the appearance that any
motion of the one is easily
perceived by the other — The
Doctor (Cond) gave a proof
of his Diagrand & his new
telescope but never intends
to exceed a few hundred. The
Great improvement is throwing
away the small speculum
forming the image obliquely
on one side of the mouth of the

16 : 20 : 43
19 :
11

19 : 9 : 30
15 : 20 : 43
2 : 16 : 47

Query

1. How are the clocks contrived with the appr?
2. Weight of the whole telescope
3. Micrometer
4. Are the Telescopes always in the plane of the Meridian
5. Times of the Revolutions of the Satellites of the Georgian Sidus —
6. Loss of light in common reflecting telescopes
7.

By this means he gains light in the proportion of 10

This large speculum is not perforated he has consequently all the light that enters the tube

Great errors he thinks have been committed respecting the magnifying power that should be fitted to the object — Sometimes distinctness, sometimes power is wanted — The volcano now seen in the moon was observed last lunation much redder and more fiery — Lava it is now nearly spent — but sufficiently distinguishable

§41. If the moon was created solely for the earth and consequently has no inhabitants, may not a lunarian argue in the same manner that the Earth was created solely for the moon and also has

no inhabitants, since it serves to
give light to the moon. —

~~141.~~ A small magnifying glass
with quad light for a lantern
advantage that it does not
magn.ᵗ the medium —

× 143. Chinese fortification Dial
Mariners compass — Mortar
Bows — Scales — Chinese case
with knife &c — Books on
natural history — printing cut
in wood —

~~14~~. Since the drops of water in falling from the clouds are in motion why does not the rainbow tremble as sometimes I have seen it place — Circular pieces of brick paper to represent the colours of the bow —

~~15~~. The air is probably of a blue colour —

~~16~~ This morning 21st May waited on my friend Mr. Jos. E. from India — who has brought home a great number of Observations for the Long: Stat: &c —

~~247~~ Should not it be mentioned in the table of the Eclipses of Jupiter's Satellites what the magnifying power of the telescope by which they will be observed to correspond to the calculated — With a higher magnifying power the Error is shown sooner than with a less. Quere what is the proportion of the Diff. of time to the magnifying power? and what is the best power for this purpose

~~248~~. It would be fine to tell the distance at which an common half pint from the body of Jupiter by which the telescope would be proved to the fitness and the obs. be made correct

~~149~~. Lord Beaudonald's
Star I have been informed
does not stand the air but
evaporates this will not take
place in water —

~~150~~. Doctor Lind has two
pendulums suspended from
the upper part of the house
large lead balls a black
lead pencil touches a piece
of paper on which if the
house is moved by an earth
quake the pencil will mark
the direction and nearly the
quantity of the shock
This is the invention of ~~the~~
a Gentleman of Naples

X

£51. Having an observation of two Eclipses of the same Satellite above defined Plan to find the difference of Long without corresponding obs to take the difference between the calculated and observed Ecl which correct into Long

Can two Springs be made so as to be equally affected by the same degree of heat and cold if so then two watches may be constructed one to move the contrary way the mean of the two will be the true time

~~133~~ For equal altitudes of the
a Star above ~~the Equator~~ Polar Distance
is nearly equal to the Comp.
of the Latitude —

~~134~~ Formula for obtaining from the elliptical form of the Horizon —

~~135~~ To find the angle which a distant object makes with the ~~Horizon~~ Meridian, being
if possible the Sun's centre
by means of a Pleumbolum
perpendicularly over the
object, then by Calculation
find the Sun's Azimuth
which ~~is~~ as the Bearing
of the Object this is much
more to be depended on
than the Compass —

~~56~~ If Rules in a practical
manner of the Navi-
gation the Navigator shall be
able to arrive in the shortest

857. The Astronomer Royal at
Paris lately made to Doctor
Maskelyne that he, O. M.,
should know the Lat. of Paris on
observatory —

~~58~~. By a good Instrument and
watch the Longitude may
be found in General ~~[illegible]~~
within 10 to 15 Miles —

859. The best time to ascertain
the difference of longitude between
the Observatories of France
and England is to be measured
next July 1757 — The French
Astronomers are to be in Eng
but have been refused leave to
make measurements themselves

Also
Done
by
Gen
Y

~~Fet~~ Wax may be made to
unite with water by the
intervention of the Vegetable
a Whale

~~Fet~~ What are the best transpa-
rent colours? Specimens of
all the colours dyed Silk
upon Prices

~~Fet~~ If the vibrations of the
air produce such an effect
on the ear, what a prodigi-
ous power is held by the conse-
quence of touching the tympa-
num with the hand — a
class of Experiments

~~Fet~~ Will not this object be
a little enforced in pro-
nouncing the letter r?

~~Sect~~ Mr. R. says that Mr. Merchells Sorby Jack Belows &c will be good for Nothing.

~~Sect~~ Is there any Method of Cleansing the Chimneys from the Soot when it has been made in the fire?

~~Sect~~ This day under Ellington's Steeple which is now a scaffolding. An Estimate for the scaffolding of the Spire that was given in at 300 £ the lowest. A Basket maker engaged to make a scaffold with regular stairs of Basketwork for 20 £ which he has executed at about 25 but shews it to prove a head

by which he will clear a
good deal of money. Found by
the spindle of the Earth work.

~~Thy~~ Any paper on which an
agreement is written may
be stamped at the office after
words provided it be present-
ed in 21 days after such
agreement.

~~The~~ It is said that Mr. Stack
gained a number of large
and costly speculations and
then sunk, and he should
by that ~~to~~ were found to fit
each other. This is alledged
by Mr. Nathan not be the
case for a small speculation
must be a ~~gain~~ loss and ~~the~~
and therefore if Stack could
well answer any large speculation
large speculations allowed left it produce
[illegible]

~~167~~. Saws at Mr Galloways a circular saw for cutting and turning of wood for telescopes

~~170~~. The brass work is now finished with the foot in the Lathe, no polishing paper for no made use of

~~171~~. The circular saw is said to be an old invention —

~~172~~ There was an error of an hour in the calculation of the transit of Mercury in May 1786.

~~173~~. The least time Veils been 14 parts time to one part fuel this is said to be the proportion in the Pillar Stone Kiln — common Kilns as 3 to 2

This day the 30th May the King went to the House of Lords and prorogued the Parliament they are the Peers sitting on his return and not while he goes to the house?

~~175~~. The Dust earth carry out the Dust to the breathmaker The Cinders are separated for the smell the former is for the fire, the latter is mixed with the breath clay and gives that grey colour to the bricks —

~~176~~ A bench Kiln is Dum Kiln was by the mallows of the Dum Belonged and has obliged to be blown up at Glenbrewder

~~169~~. Saw at Mr Galway's circular saw for cutting edges of wood for telescopes

~~170~~. The brass work is ~~made~~ smoothed with the tool in the lathe, no probabilities before for so made use of

~~171~~. The circular saw is said to be an old invention –

~~172~~. There was an error of an hour in the calculation of the transit of Mercury in May 1786.

~~173~~. The least time Kilns burn 14 parts lime to one part fuel this is said to be the proportion in the Bible. Some common Kilns as 3 to 2

174. This day the 30th May the King went to the House of peers and prorogued the Parliament. Why are the Parliament gone? Why are the Parliament gone said on his return and not while he goes to the house?

175. The Dust carts carry out the Dust to the brickmakers. The Cinders are separated for the smell the former afford the fire, the latter is mixed with the brick clay and gives that grey colour to the bricks –

176. A brick Kiln in Devonshire was by the mallows of the sun rebuilt and was obliged to be blown up with gunpowder

X

1797. An honest trader receives in the way of business a stolen bank note, can the proprietor claim the note by law? — no

~~1798~~. To find the breadth of the solar spectrum in the Newtonian telescope as the focal dist. greater minor : diam. :: semid. greater minor : breadth of the solar spectrum.

Ex:

Mr. Nemitelli's focal dist.

ft. feet feet feet

40 : 4 : 2 : 2.4

~~[illegible]~~ The Difference of Length between a Telescope ~~[illegible]~~ with a convexe and convex eye Glass is three times the focal distance of the eye Glass — convex

~~[illegible]~~ Thale first opened into his header at the rate pro fability of 1 Gr: to a Guard This Lends to give the Barber a bettermost it therefore saw hopes. It also gave it a many quality —

881. It is probable that Engle and France may one day be joined by the remainder of said banks which are bound to increase —

~~[illegible]~~ Prime Glass — in Engewood

Brit: Jehthrocella —

~~332~~ If the body is clothed and
wet with aqua fortis pour
on some oil of tartar —

~~333~~ The velocity of the Ganges
is from 3 to 7 miles p hour
greatest in the rainy season

~~334~~. The section of a strait
over is an ellipsis but
of a winding river an
a kind of obtuse angled tri-
angle shelving on the convex
and deep on the concave
side.

~~335~~. What is the best form
of a Bakers oven? —

§ 87. There is an inconvenience attending to Hospitals abroad they are built in the form of a square with a stair round, by this means the apartments ~~and~~ communicate with each other and consequently infectious diseases are propagated through the whole hospital. The patients in one room are disturbed by the cries in an adjacent apartment. The Pallasing of rooms &c

~~188~~ Dr. Button noted the proportion of the Silver to the copper is 1 to 48 or 64 —

~~189~~ Wire drawing plate mills at Lyons have been attempted in vain in England not known whether cast or forged — Small wire is drawn by the hand, thicker longer by a machine — Different forms —

~~190~~ It is said that better of wire is added to the silver in the Phil. fire machines some say Sulphur —

~~191~~ Cutting pressing work better done with a little hand machine

~~192~~ The Cones at Cherbourg are built of logs of timber on land the greatest here is the Rafter They are floated with Frigates and floated with casks which are cut away when the cone sinks — The cones are afterwards filled with stones.

~~193~~ In the experiment of the powder wire thrown on an Electrophorus melt one with a negative another with a positive fine effect — somewhat better effect from one positive fire —

To separate Silver from copper by a menstruum which does not act on the copper

Sap green it was made from Lettuce —

A mastick varnish is to be ground with sugar of lead and linseed oil it forms a composition which is much admired by the painters —

— Gum Mastic — sugar of lead or Red lead — but to boil the lead in the linseed oil then add the varnish — this is called Gemshein — its properties durability — transparency also body —

~~146.~~ Vegetable green — Elder leaves — plaster from ground with Thyme yet — There is probably no occasion for plaster sam —

~~147.~~ It is assumed that the German Sinngrave & the Greek are originally the same — A Greek work can be translated almost word for word into German —

~~148.~~ Philo's remark of the resemblance between the sounds of certain animals and the Greek vocabulary cannot determine any line

Swift certainly commenced the pronunciation of the great vowels — aw, aw, which they had then in Greece — The sound of the Butterfly and Lapwing are totally different —

~~199.~~ A method of Silvering Plate from the School of arts by Smith has lately been found of great use at Birmingham —

200. Best methods of Dying colours during the course of a Lecture —

~~201~~ In weighing anchors there are well boats employed there have a Lighter than the middle of the bottom, thro' the

cable passes. The pressure is by this means much greater than value on the side or end

~~902.~~ As Being one of the several furnaces of all sizes from 2 lb and upwards —

~~903.~~ A wheel to move round by tamps

~~904.~~ A Horse on that tamp machine may be conveniently moved by a proper law representing some fit device

~~905~~. If the hands are washed in vitriolic acid and exposed to the sun the hands will not suffer any pain this is ascribed by the author of Animal Magnetism

~~906~~. A piece of ore hard by scraping a little off and throwing it on the candle if there is iron it sparkles, sulphur is known by the smell held the powder in the flame it will be attracted by the magnet cobalt is verified —

~~907~~ A portable bellows for a ~~tom~~ furnace for melting

~~908~~. Silver Solder is composed of silver and tenacious brass by soldering — Dissolve a little Borax in water by melting it on a wet slate or marble with the wet end of the piece to be soldered and lay a small bit of the solder on the upper part of the joint the flame of the below spirit on it supply by the metal the Borax promotes the fusing of all metals

~~909~~. A mechanical method for determining the field of a Microscope is to make a mark on the table on each side where the extremities of the field appear to meet the table, this can be compared with the field of any other

microscope —

910. The divisions of a scale are blackened by rubbing the scale with lamp black.

911. Any Alkaline Salt will extract the colour from Vegetables

912. The Vitriolic acid may be made to dissolve an equal weight of Silver whereas the Nitrous acid will not dissolve more than 1/4 — This contradicts the common table of affinities —

913. When tin and Silver are united it is extremely difficult to separate them by lead add a small quantity of Copper and the separation is easily effected —

~~914~~. Arsenic is poisonous only from its being so easily volatilized it then affects the coats of the Stomach —

~~915~~. In the calcination of lead the calx may be made to put on all the different colours the patent yellow is prepared in this way —

~~916~~ Vitriol and oil of olives will light a match —

X
917. The climate in Bra-
dina is so temperate that the inhabitants have no fires nor even fire places in any room except the Kitchen — Strawberries fall from May till September —

~~4th~~ From lead ores
Silver can be extracted
The process is this
A test is made of finest
bone ashes this is wrought
up with water or can
iron hoop – a bench of
a carriage wheel with
arrows. It is made a
little hollow –. The ~~bone~~
~~ashes~~ lead ores are
mixed with
the proportion of ½ to
put into a crucible and
reduced – an irregular
lump this is afterwards
melted into an ingot
The test is put into the
furnace and taken through

to a red hot ingot or a piece is put ~~into~~ on the middle of the test, it soon melts the shot is carried, if the mixture consist of Silver and ~~lead~~ heavy metals the lead is in time totally is converted into a very thin clear fluid which is absorbed by the test and the Silver left behind. During the separation and absorption of the lead it flows over the Silver towards the test. The Silver when freed of lead puts on a beautiful pale yellowish colour streaks like the Aurora Borealis, and when there is a great quantity of metals like lightning dart from it. If there is any more lead

tremest carefulness! Little crystals
have. Just before it is cooled
entirely solid, there is some
danger of the lead returning
to the surface & powdered on the
test to prevent this. Any
quantity of lead may be
poured on fused Silver with
out occasioning an explo-
sion — A few drops on Copper
or cast iron caused a
dangerous explosion. —
The Silver obtained this way
is indeed very fine by nature
it is a crystal — The test
absorbs hardly any part of
the Silver. A Cwt of the tests
made use of in this process

is sold for about 20 Shill.
to the large refiners — The lead
brings 14 Shill. the silver con-
sequently 6 d, that is one
ounce of silver in the Cwt. —
In lead there is almost
always a quantity of tin
which it is extremely dif-
ficult to ~~separate~~ melt.
this must some times be
skimmed off. It is the calx
of tin in fusion, to a point
the fusion of this, and in
order to bettefy it, red lead
is added. It is remarkable
that tin is the most easily
fused of all the metals and
the most difficult to bettify
the test absorbs the glass of
tin also. The tests have been

+ 919. During the American war Two thousand Stand of rifled arms were made for Govern.t at Birming.m and 5000 at the same time for the Americans!!

~~920.~~ The more fresh air passes of the surface of the water on the ~~but the~~ more rapidly the operation is performed.

~~921.~~ Is it lime or a given quantity of heat that produces the effect in separating an Metals?

+ 922. The linen trade of England is much more than of Scotland but does not make so good an appearance, it is all

sold at home - the Scotch
linen is exported —
— When the bounty was
first granted for coarse lin
manufactures in Scotland
the Amount of the Stock
manufactures was 300,000
It has arrisen to 900,000
923. It is extremely proba-
ble that the French have
have our East Indian
Settlements in view by
encouraging the Dutch
civil war —

924. A Scotsman objection
to the first proposition
by intruding the Irish to
the linen business they

have far outdone the Scots
but grant them every thing
and they will do nothing

~~July 25~~ This day Sunday
July took a walk Mr. Tod
on a rising ground from
a number of shore pebbles
an extent of many acres
is covered with them to be
very sensible, in many
places there is scarce any
vegetation – Has not the
sea covered all this part
of the country?
[ten miles West of London

July 26. Mr Evans, Respecting
great hurricane in Boston
Does in the of
a phenomenon Tornado

to the Aurora borealis appear
the only difference was that
it was stationary — different
colours —

~~927.~~ Fossil Shells are found
in every part of the West
Indies at a great depth

928. The Sugar Mill consists
of a wind mill varies
Difference wheel must be
with three cast iron Cylinders
or rollers like a garden
roller about 1 to 2 inches
thick placed perpendicularly
The reeds are first first pass
between two then bent below
the other two ~~two~~ two inches
short piece the juice falls
into a through with a gutter

which conveyed it to the outer
Cylinder about 20 Inches
Deep and two feet long
only one set to a Mill —

929. Have the various writers
on Prosodly been of any
use to Mankind? has
not a Negro the same
nothing of any moral
act as the most learned
European?

~~929~~. Suppose a hole made
in the bottom of a ~~[illegible]~~
Cylindrical Vessel, the
bottom half an inch thick
the lower part of the
orifice dry the quantity
of water discharged with
the lips by a third than

upon the hole is rubbed

X
p 31 The Sandy beggars are said to have boiled the flesh of the stolen sheep in the skin this may be done.

X
p 32. The overseer of a plantation is always the most unstable to the owner, the less provisions and expence he is at. Various schemes are taken on to cheat the wicked negroes, the bottom of the can in which the corn is measured is made convex below, the sides are also bevelled to lessen the quantity. In the English plantations the Negroes are transferable

In the French they are friends to the soil — Code Noir ascertains exactly the Quantity of the Ration and Punishment of the Provision every Negro must have — No such laws in favour of the English slaves

933. The different systems of moral philosophy Je wishes deserve to be ~~Tale~~ of a hubbed?

934. The small variation in the barometer within the tropics owing to the Trade winds

~~935~~. — Montesquieu's speculation that, courage is more frequent or superior in cold countries is not just —

936. This day heard an excellent sermon in Great Neck on Sensibility — By Order of Definition — Two extremes many intermediate shades — Ancient Stoicism — modern — both contrary to nature and experience — Sensibility adapted to the character of the man of business — Son — Daughter — Wife — afford many striking examples — The sacred writings — Samaritan and Levite — Character of Jesus — wept over Jerusalem — over the Grave of Lazarus — Woman behold thy son, behold thy mother —

~~p 38.~~ Moreover, a people that
Slavery is contrary to natural
reason, yet agreeable to the
natural reason of some coun-
tries, this a contradiction — gene-
what is natural reason? —

~~p 38.~~ Slaves works have a
bad tendency —

~~p 39.~~ Why do not the American
show great a portion of liberty
abolish Slavery in their
country by emancipating their
Slaves? —

~~p 40.~~ An objection to the
Division of a Freeholder
as demonstrated by Nord
— by the analogy — —

~~41~~ Most of the errors that are inconsistent in point and ~~not~~ strongly need borrow arise from the abuse of words — Hume — Berkley &c —

~~42~~ 42. Voltaire, Hume and other writers, on the subject of Slavery have done much mischief without intending it.

~~43~~ Nosce "justum et tenacem propositi virum" is an unnatural character — — wants sensibility —

~~44~~ Brutus's uneasiness at the death of his sons —

— Trade —

Belfast results to Dublin
duties on goods imported to
the amount of 60,000 £ p
Dan.m before R. was with-
drawn (Brandy or Tobacco
sugar and Rum

 The length of the following voyages from London

To Madeira — ten days
To Gibraltar —
To Minorca
— Genoa
— Leghorn
— Naples
— Malta
— Smyrna
— Egypt —
— Levant —
— Coast of Guinea
— St Helena
— Cape of G. H
— Ceylon
— Madras &c.
Coromandel Coast —
— Canton —
Batavia —

	out:	Months	in:	Mont
Grenade				
Barbadoes				
St Vincent				
Jamaica				
B. of Honduras				
Savannah				
Florida				
Georgia				
Carolina				
Virginia				
Maryland				
Pennsylvania				
New York				
N. England				
N. Scotia				
N. Foundland				
Quebeck				
Sound				
Riga				
Pembgis				
Cronstad				
Reger				
Archangel				
Amsterdam				

~~Pata~~ Pezzano. dispatched an express from Buenos Ayres across the continent of South America to St Jago in Chile. The Indian performed it 13 days distance 700 Spanish Leagues 40 of which are over the Andes almost impassable, in the winter —

947. Dialogues

Vitruvius — Sr C. Wren
Pliny — Buffon —
Pausanias — Chatham —
Archimedes — Sr R. Arkwright
Cicero — Marlboro —
Plutarch — Copernicus —
Livy — Robertson
Euclid — Newton —
Hannibal — Wolfe
Dr Rogers — Spalding
Ovidius — Stanley —
Water — Steam
Bunsen — Lavoisier
Galen — Paracelsus

~~448~~ What is the best mode of purifying the mineral Alkali, or any of the Alkalies

~~449~~. Pure air expelled in water is rendered less pure and all the other airs more pure by the operation —

~~450~~. Why does the ~~fire~~ sun shining on a common fire tend to put it out sometimes ~~[illegible]~~ It is owing to this that fires are generally burnt in cold weather the warmer the weather the less time the fire will burn.

~~951~~ Calx of any other metal ~~be added with~~ except Mercury be reduced without addition &c.

~~952~~ If pendulums vibrate in proportion to their length without any regard to weight, they should a Demonstration of gravity produce a slower motion at the Equ.r

~~953~~. The thermometers applied to the new Chronometers can never shew their whole effects unless the water was regulated previous to the application of the thermometer.

~~954~~ The East India and other long voyages performed in less time now than formerly? and are there fewer ships lost now than formerly? If ~~this~~ it is answered in the negative, what is the use of the lunar observations?

~~955.~~ New alarum.

~~956.~~ Contrivance for keeping the heat of a hot house at nearly the same degree. This contrivance will give notice to the neighbourhood when the fire is neglected.

957. To raise a hundred tuns with as little friction as possible

~~258.~~ to find a language for the different degrees and kinds of taste and smell —

~~259.~~ The only red colour which can be learnt into glass at present known is made by mixing a small quantity of the solution of Gold in aquaregia with a solution of tin in aquafortis The colours of Lake, Carmine &c fly off with the heat —

Tin may be grained by heating it a little and stirring it with a hammer, or melting it and throwing it into a wooden box —

~~Obs.~~ The nitrous acid employed in making the red colour mentioned in the last article must be of the strongest kind otherwise the cloth so strong the colour will not be good

~~Obs~~ Lime water is the best colour for scrambling or glass and burning in both on these colours as brown as those simply laid on the glass.

962.

p. 63. Desiderata —

1. Marine Medicine
2. Whale maker oil —
3. Sole mebrale
4. Dog Med. — adap —
5. To discharge Stain
6. Cupbes old wounds
7. Ink which no acid will discharge
8. Artificial Gems
9. Phosphorus
10. Sympathetic Inks
11. To prevent rust
12. Marine Milk
13. Letter cement
14. Vegeto-Mineral Water
15. Sigillum Sol: blue eye
16. Tracks cures the piles
appl: extern:
17. Soft butter fresh —

London March 1808

18. Thy promises

19.

96th. Silver or Gold heads
come to blacken the hands
or the Glove, this owing to
the copper in these metals
for when they are pure no
such effect follows —

~~97th~~ The ~~birthing~~ bursting noise of the
Death watch is said to be
owing to a certain he worm
courting the female —

~~98th~~ The blight or black in
corn is said to be owing
to the sun's rays being
concentrated by the drops of
rain or dew on the corn —

~~99th~~ The difference between fowls
and birds is fowls carry
their young to food birds lay
food to their young — fowls

build their nests on the grounds
Birds on high —

The pigeon is said to be
the only fowl which drinks
without raising the head to
small — what particular
structure of the throat renders
it necessary for birds to lift
their heads in drinking?

X
969. It is affirmed by
that a worm fixed on a hazel
spit will turn round of itself!!

Bolton and Watts Engine
at Blackfryar bridge Albion
Mills consume three bushels
and a half of coals every
about 7 Shill. p. hours thus
is 2621 £ 16 Shill. p. Ann.

The Engine goes night and day Sundays excepted —

971. Publick has the advantage of private Education in every respect morals excepted and yet a boy private Educated is generally the most despised at the college —

972. New Chemical Experiments at Mr. M — Do —

973. New Method of ~~pre~~ taking pictures of Flowers.

974. Darby stone glass mended by a composition put into the inside of a flint Jar by Mrs. M—D—

~~74~~ 75. The small white maggots in cheese are the worms of flies very like the common flies —

~~75~~ 76. It is observed that if gum arabic be laid on the under side of a leaf and water stuck on the gum that the leaf will be preserved for any length of time —

977. Tripe is said to have nothing nourishing — A dog was fed during one month by Doctor

Number. If you so learned
weak as hardly to be able
to walk —

~~978~~ — To know from the
blossom how many
peas there will be in the
pod —

979. Mortar made of wedgewood
ware Solophian —

980. Furnace of the same —

~~981~~. What are the best
cutes for all sorts of do-
mestick purposes —

~~982~~ Can a Nation become
bankrupt? — who is
the creditor —

X

p 53. Chain showing the
Double cone — Plan a cone
Cylinder fixed on the cubes
to show that it demands —

X.

p 54. Magic Smelling bottle —
Fish — Magnetic box — perspec-
tive — Heliosophic and
Polyophic machine — Magic
Fountain — Diagonal opina-
glass — Anamorphoses —

Price of labour

A good Marble Mason and Bricklayer has 12 Shillings P. week. Ploughboys from 7 to 10 Months for the Menzies frontier.

A Carpenter Wheelwright and Sawyer can hardly be about the same —

~~Q 25.~~ Why does a fog appear of a blue or dark colour since the sun

~~Q 26.~~ Ferguson's Eclipse-screen is constructed on a wrong principle, and is only true when the Eclipse is central

X
Q 27. Emerson was attacked with regard to his Astrology

~~Q 28.~~ What is the best method of reducing smells and tastes to a scale? —

~~Q 29.~~ A quantity of ice put on the fire in a pot the pot remains cool until the ice is melted, a proof of latent heat ——

~~990~~. The fallacy of the common method of measuring unequal sided timber by taking one fourth of the circumference for the side of the square (demonstrated from the 5th Prop. 2d book Euclid —

~~991~~. It is affirmed by some clock makers that oak pallets will ~~wear~~ last longer than the blades —

~~992~~. A bit of brown paper rubbed between the arma the body produces sparks of Electricity upwards of two inches —

~~993~~. Some clock makers Pair dessert such that the

floats of the one fastest prefs when produced have the point of the other

~~994.~~ In nothing throughout in an open receiver communicates frequently takes place on the surface of the water

~~995.~~ White paper wetted with the hand produces much electricity

995. When were the present scantlings of timber in the London house (excepting floors and by stoves)

996. Some have thought to determine the position to find the depth of a well, by the sound of the stone found bottom by

that they call a new method
bodies moving conformably in a
solid sphere & bound one in the
same line as the axis —

~~977.~~ Objection to the 10 Def.
of the 11th Book is well
founded —

~~978.~~ The Algebraic expression
is sometimes mistaken for a demonstration —

~~979.~~ Theses of the same kind
and would very often
differ widely in their results
The manner of loading or
position of the ballast is
one cause —

~~980~~ In the first part of
the process of the distilla-
tion of sulphur, over the
Vitr. and rem. with the Phlog:
of the Charcoal undrawn a

Nitrous Sulphuric —

End of the Mill book

Bennet Whitton Woodw

Buffon - Jones Whitehurst -

Price - De Luc - St Ford, Con-

tamine - Ulloa Mr. Willm Man-

Foster - Algarotti's Letters

Shaw's Travels - Reynal Dawes

of the Ganges - Annual Regist

Gentl. Magazine - Rambouton

Chemistry - Watson's Essays

Lord Dundonald's pamphlet

his answer - Du Pratz history

of Louisiana - Mitchell's history

of Earthquakes and Volcanoes

Pamphlet on Opera 1s. at

No 12. Flat sheet -

12. Flat Sheet
Bratan —

75. Barnsh St —

New Berlyn Sheet
and not Swallow Sheet
14.14 —

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—	59	20	= 69	48½
—	58	20	= 69	56
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20 30 — 59 38
29 30 59 26

36 46 — 1 31 23

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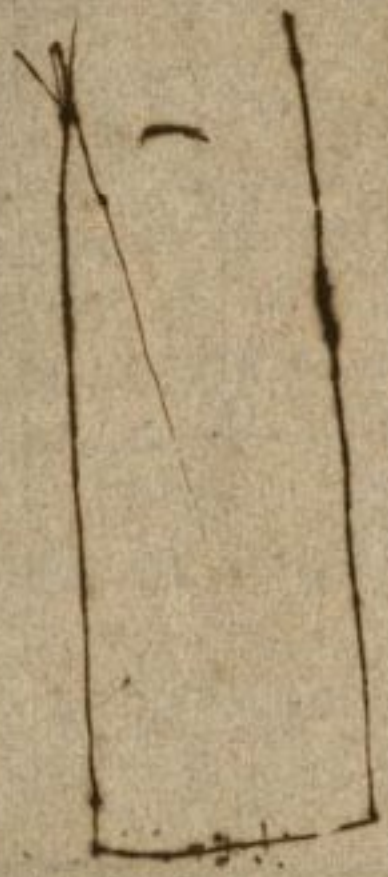

A Barrel of lime equal to
3 winchester bushels

of pork to come to the London
[illegible] is an act of parliament that
[illegible] shall be sold by the
weight if otherwise means the
seller cannot procure the premium
for the price — The law is similar
respectively in Wheat and barley
but oats is commonly sold by
the measure — the same law to
potatoes —

The Irish perch is 7 yards 1 qr.
the proportion of the Irish to
the scotch acres is 49 yards
to 36 Ells — or as
nearly —

The Irish mile is yards
it is in proportion to the
English as